

US EPA ARCHIVE DOCUMENT

Managing an Integrated Response
Freshwater Spills Symposium May 2 - 4, 2006
Portland, Oregon

By



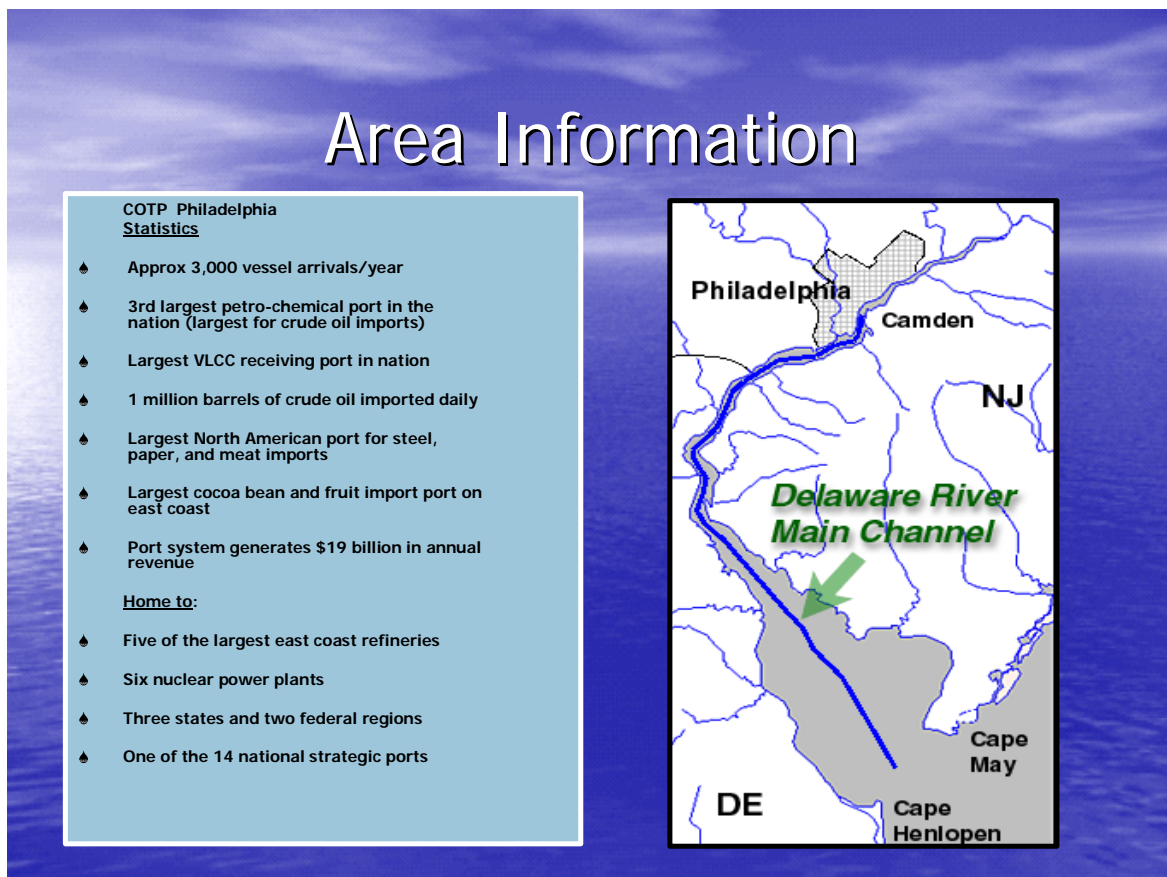
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Summary: Managing an integrated response is accomplished by utilizing a commonly understood response management system. The MT Athos I response was managed with the Incident Command System. Consensus management was utilized at the Unified Command level with The O'Brien's Group managing the Incident Command System across the organization. Agency integration throughout the sections was critical to the success of the response.

It's important to provide some background for the MT Athos I event. Captain Jonathan Surubbi submitted the following information to the Subcommittee on Coast Guard and Maritime Transportation United States House of Representatives on January 18, 2005.

'The Delaware Bay and River is a 120-mile waterway that is home to the nation's sixth largest port and third largest petrochemical port. There are approximately 3,000 deep draft vessel arrivals a year and it is the largest receiving port for very large crude carriers (tank ships



greater than 125,000 dwt). At least 42 million gallons of crude oil are moved on the Delaware River on a daily basis. It is the largest North American port for steel, paper, and meat imports as well as being the largest cocoa bean and fruit import port on the east coast. The port system generates some \$19 billion in annual revenue and is home to five of the largest east coast refineries and six nuclear power plants. It is one of only 14 strategic ports transporting military supplies and equipment by vessel to support our troops overseas. The port is critical not only to the region, but also to the nation.

The Delaware estuary is a complex environmental system made up of diverse shoreline features. There are heavily industrialized areas with vulnerable water intakes concentrated from the Delaware Memorial Bridge to the Betsy Ross Bridge, interspersed with pristine marine habitats including the John Heinz National Wildlife Center. The Salem and Hope Creek Nuclear Power Plant is located at Artificial Island, NJ. There are several historical and archaeological sites along the river. There are a number of tributaries that feed environmentally sensitive wetlands, including Mantua Creek, Darby Creek, Raccoon Creek, Oldmans Creek and Big Timber Creek. The shorelines of Chester Island, Little Tinicum Island, and Monds Island are composed of freshwater marshes. Pea Patch Island near the Chesapeake and Delaware Canal is home to the largest heron rookery on the east coast. Vegetated banks and marshes line most of the creeks that flow into the Delaware River. There are also sections of sand or sand and gravel beaches along the Delaware River shoreline. Between the numerous commercial facilities and recreational marinas, the majority of the shoreline is seawall or riprap.

The biological resources at risk in the region are primarily birds, fish and shellfish. There are high concentrations of over-wintering waterfowl (including black ducks, Canadian geese and northern pintails) and diving ducks in this area with the highest concentration in the

region from the Commodore Barry Bridge to Little Tinicum Island. There are also several birds of prey in the region including peregrine falcons and nesting Bald Eagle pairs...

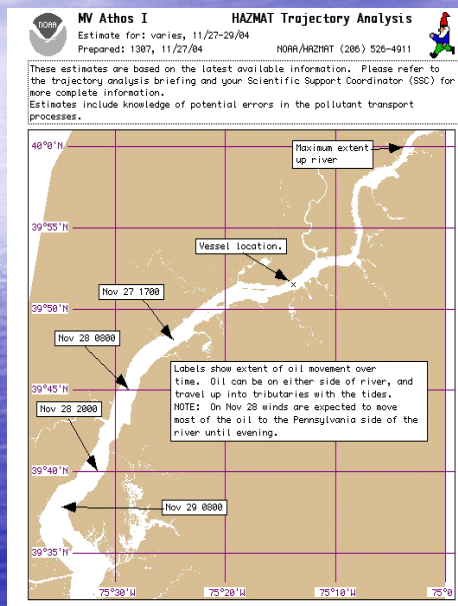
Initial Response

At 9:30 PM on November 26, 2004, the Coast Guard was notified by a tug assisting the T/V *ATHOS I* in docking at the CITGO Asphalt Refining Company facility that the tanker was spilling oil. Simultaneously, the vessel had acquired an eight degree list, causing its engines to automatically shut down. The assisting tug reported that the vessel was 250 feet off of the pier. The *ATHOS I* is a 750 foot-long, Cypriot-flagged tank ship with a single bottom, double-sided hull that was built in 1983. The *ATHOS I* was inbound with approximately 13 million gallons of Bachaquero Venezuelan crude oil destined for the CITGO Asphalt Refining Company facility in West Deptford, NJ (hereafter CITGO). Because of its significant list, which increased the vessel's draft, the vessel could not be placed safely at its intended berth at the facility and instead was anchored in the southern end of Mantua Creek Anchorage.

Immediately following the incident, the vessel activated its Oil Pollution Act of 1990 (OPA 90) mandated vessel response plan (VRP) and it's designated Qualified Individual (QI), the O'Brien's Group. The QI reported to the Coast Guard Operations Center to direct clean-up efforts on behalf of the vessel owners, Tsakos Shipping Company. CITGO immediately activated a clean up contractor to respond to the incident. The Coast Guard launched resources to assess the situation and the vessel crew conducted tank soundings to ascertain the location of the damage and the amount of cargo lost. Bachaquero crude oil is a slightly buoyant, very viscous and sticky oil. It is a heated cargo with a high asphalt content and weathers slowly and usually forms tar balls. At the time of the incident, the tide was incoming and the current was approximately one and a half to two knots. The weather was clear, the wind calm, the

temperature was 38 degrees Fahrenheit. Within a few hours, thick oil covered the River as far north as the Walt Whitman Bridge, approximately six miles north of the incident and began to spread. The preliminary report of amount of oil spilled was estimated at 30,000 gallons. Once the vessel was stabilized several days later, a worst case estimate of amount of oil released was determined to be approximately 473,500 gallons. However, some of that oil was believed to have migrated into the number seven port wing ballast tank.

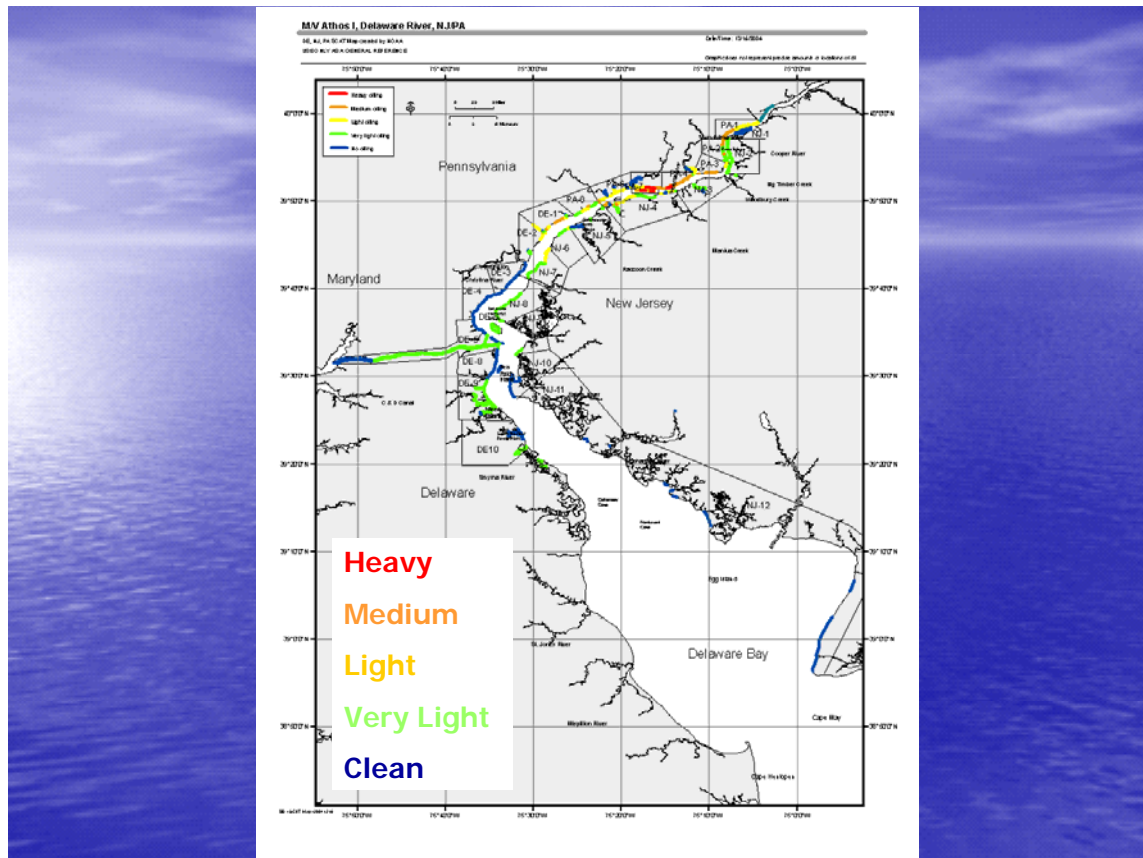
Initial Timeline



- 26 Nov 2130 hrs M/V ATHOS I 8 degree list to port
- 27 Nov Initial weather flat calm-oil observed on Delaware River
- 28 Nov high easterly winds drives oil against PA shore
- 29 Nov overflight indicates significant oil has been released
- 30 Nov high level of response effort including shoreline assessment
- 1 Dec high westerly winds drives oil against NJ shore

The Coast Guard Operations Center in Philadelphia made notifications to federal, state, and local agencies as well as other key stakeholders including the National Oceanic and Atmospheric Administration (NOAA) Scientific Support Coordinator, the Department of Interior, and a myriad of other concerned parties. Personnel and response resources were activated to

respond to what was shaping up to be a major oil spill. By morning, a Unified Command comprised of representatives from Pennsylvania, New Jersey, Delaware, the Coast Guard, and the vessel's QI had been established and initial response objectives had been determined. A Coast Guard helicopter over-flight of the spill was conducted at first light and shoreline assessment teams were deployed to determine the extent of oil impact...'



Who were the stakeholders involved with the response? Several Stakeholders have been mentioned, but a comprehensive list adds perspective to the integrated management challenge.

- United States Coast Guard (USCG)
- United States Army Corp of Engineers (USACOE)
- United States Environmental Protection Agency (USEPA)
- United States Fish and Wildlife Service (USFWS)

- Delaware Emergency Management Agency (DEMA)
- Delaware Department of Natural Resources and Environmental Control (DNREC)
- New Jersey State Police Office of Emergency Management (NJSP)
- New Jersey Department of Environmental Protection (NJDEP)
- Pennsylvania Emergency Management Agency (PEMA)
- Pennsylvania Department of Environmental Protection (PADEP)
- Tsakos Shipping and Trading, S.A. represented by The O'Brien's Group
- Citgo
- Nuclear Regulatory Commission

The management challenges included

- Protecting the Environment,
 - Conducting shoreline assessments
 - Deploying protective booming,
 - Monitoring existing booming for effectiveness
 - Collecting and recovering free-floating oil
 - Identifying and collecting submerged Oil
 - Collecting and rehabilitating injured wildlife
- Port Management,
 - Facilitating vessel movement where possible



- Establishing and Enforcing a safety zone
- The Closure of Salem Hope Creek Nuclear Power Plant
- Stabilizing the vessel and taking corrective actions to prevent further discharge,
- Ensuring safety of the Responders and the Public
- Keeping the public and stakeholders informed.

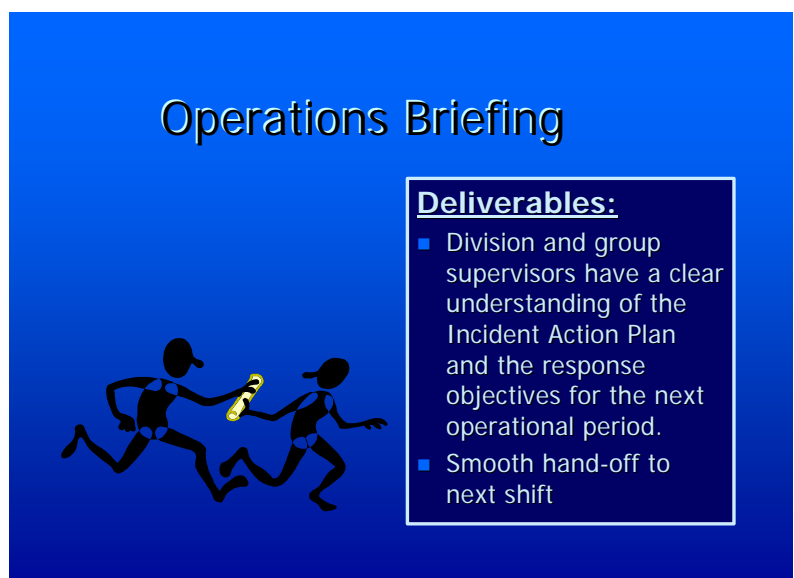
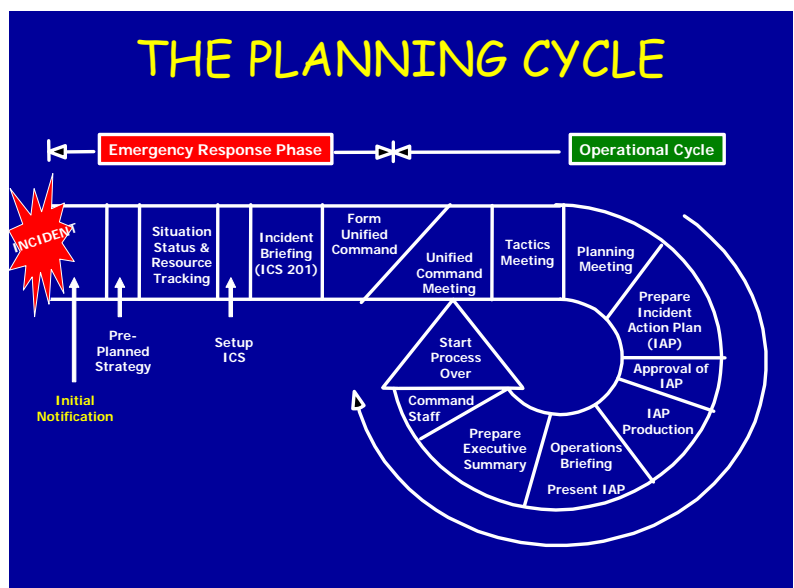
The National Incident Management System Incident Command System (ICS) was the cornerstone in bringing together the 1800 person organization that was necessary to respond to the MT Athos I incident. Twenty Agencies and numerous commercial entities committed to use ICS enabled the Unified Command to rapidly build an integrated team that had a common set of objectives and priorities. Efforts focused on removal of oil from sensitive habitats and from shorelines where oil could be re-floated and remobilized by changing tides, winds and currents. Under the careful supervision of expert government scientists and responders, Laborers using hand tools and heavy machinery removed tons of contaminated debris. Because of the complexity of contaminated shoreline, the spill cleanup operation was divided into over 20 different geographic work divisions.

The strength of the ICS is that it transcends the different organizational structures and unique terminology and processes that Agencies use internally and provides a common model that enables those in the response community to join forces. Without a strong commitment from all response entities to use ICS, the Unified Command would not have been able to speak with ‘one voice,’ providing the public with a clear and cohesive message. Nor would it have been able to leverage the resources necessary to manage the multitude of operational issues that the Athos I incident presented.

The heartbeat of the Incident Command System is the planning cycle. The planning cycle specifies what processes need to occur and in what order. There are two distinct phases to the planning cycle. The first is the emergency response phase, where notifications are made and preplanned strategies implemented. Initial actions are recorded on the Initial Incident Action form, ICS form 101. It includes a map of the incident, chronology of events, initial response organization chart and resources employed. The second part is the operational cycle, where a response becomes a planned project with specific steps routinely occurring until the incident is completely addressed according to Unified Command's agreements.

At the first Unified Command meeting, the Unified Command established a 24-hour operational period and a daily meeting schedule, ICS form 230, which established the planning cycle timeline. The daily meeting schedule included

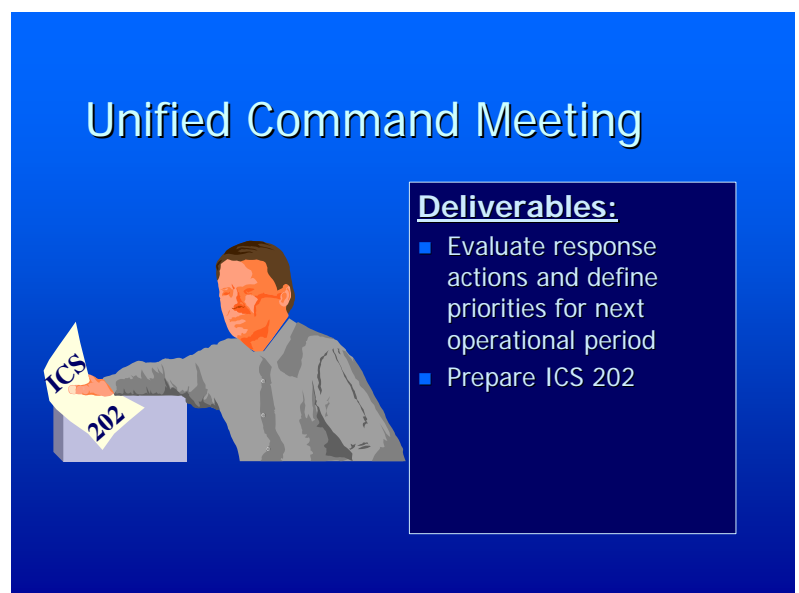
- Operations Briefing
- Unified Command Meeting
- Command and General Staff Meeting
- Tactics Meeting
- Planning Meeting
- Press Briefings, and
- Operational de-briefings



The Operations Briefing was the ‘kickoff’ for the day’s operations. The meeting started with a review of the current situation and the daily safety message. The Operations Section Chief distributed and reviewed the Individual work assignments, ICS 204’s, with the respective Division Supervisors, Group Leaders and Task Force Leaders. The purpose of the Operations Briefing was to ensure that Division and Group Supervisors had a clear understanding of the Incident Action Plan for the next operational period. The Operations briefing also ensures that there is a clear handoff between shifts.

The Unified Command Meeting was scheduled for 0800 hours each day. The meeting was facilitated by the Deputy Incident Commander and started with a review of response objectives. The response objectives were documented on an ICS form 202. Open action items were the next item on the agenda. Open action items were unique issues that often required the assignment of special resources. Some examples of open action items were

- Reviewing and approving press releases,
- Developing methodology for prioritizing facility cleanup,
- Planning and coordinating media tours, Finding and recovering submerged oil,
- Establishing Community outreach programs and materials, and
- Relocating the Incident Command Post.



The Unified Command reviewed the organizational structure and each meeting to ensure that it was designed, staffed and sized to meet their objectives.

Following the Unified Command meeting was the Command and General Staff meeting, which was scheduled for 0900 hrs. The Planning Section Chief facilitated the Command and General Staff meeting. The meeting starts with a reminder to stay on topic, be courteous to others and to put cell phones on vibrate. The first agenda item was the situation update. The Situation Unit Leader gave a weather report, tide report, safety update and operations update. The Command and General Staff were then individually called to provide updates on their respective areas. The Deputy Incident Commander reviewed changes to the overall incident objectives, which were followed by open action items. The Unified Commanders were then individually called for comments. Tsakos Shipping, represented by The O'Brien's Group and the Federal On-scene Commander, Captain Surubbi, alternately made final comments.

Before the next scheduled meeting, individual sections and work groups conducted routine activities. The work groups were comprised of Agency and RP participants. Synergy of effort was evident from these groups. These activities included special projects such as

- Developing a Waste Management Plan – the responsible party along with the Delaware, New Jersey and Pennsylvania practitioners and regulatory experts developed a Waste Management Plan that had no obstacles to implementation once approved by the Unified Command.
- Developing Cleanup maps – the Environmental Unit and NOAA pooled their resources to produce useful pictorial guides that identified types of shorelines and cleanup guidelines specific to the response.

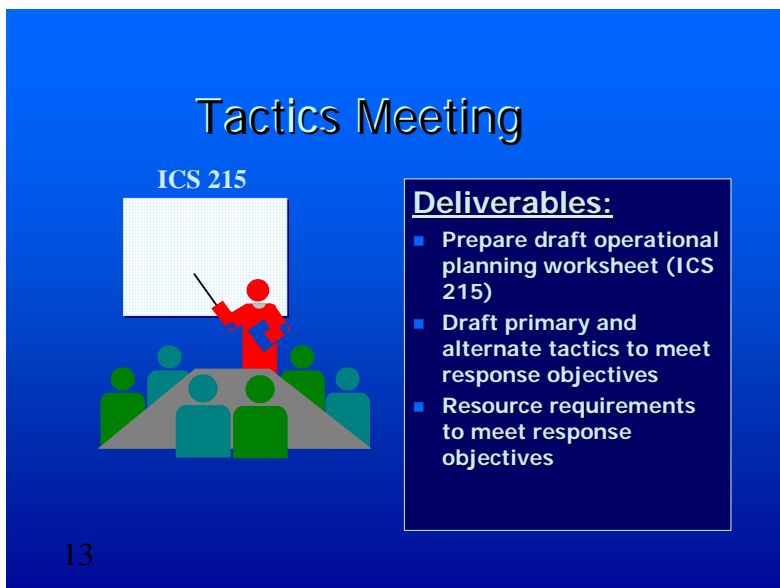
- Developing Community Outreach Programs and Materials – the Public Information Officer and the Liaison Officer prepared programs and materials with subject matter expert input that was to the point and deliverable by the Unified Command.
- Establishing a Claims Procedure – The Planning Section drafted a procedure which encompassed facilities and recreational vessels. The Unified Command reviewed and commented several times before an agreed procedure was implemented.
- Establishing Cleanup Endpoints – Cleanup endpoints were a product of the Science Committee. The Science Committee was made up of subject matter experts from the responsible party, NOAA, Delaware, New Jersey and Pennsylvania. The Committee met separately and was able to discuss completely at a scientific level the appropriateness of methodology and specific endpoints. The Environmental Unit Leader presented the Science Committee's work to the Unified Command for final approval.
- Developing Facility Cleanup Priorities – Cleanup priorities were the product of a model developed by the USCG and operational input. This matrix ensured all environmental and economic issues were effectively addressed and tactics were assigned in the right priority. Priorities were recommended to the Unified Command via the normal ICS planning process. Close monitoring by operations ensured the effectiveness of the program.
- Finding Submerged Oil – The responsible party gathered subject matter experts from around the country to integrate science (NOAA, Environmental Unit) and operations (USCG, The O'Brien's Group, USACOE) to develop and implement a comprehensive search and recover methodology, which employed unique operations technology utilized to mitigate the submerged oil problem. Three elements were developed to try and track the submerged oil. The first was to use anchor buoy systems that had snare sorbent

attached. These were placed and recovered as a presence – absence test of oil in the area. The second was a device that consisted of a ~6' pipe (ballast) with several “strings” of sorbent snare trailing from the pipe harness. This system was weighed before deployment and after recovery to provide an estimate of recovered product. The third was a barge and diver operation used to recover oil located in “pockets” on the river bottom.

- Facilitating Salvage Operations – Salvage operations are usually under the complete direction of the Salvage Master. However, before salvage could begin the exhaustive efforts of the USCG, Correspondent (the Correspondent represents the vessel insurer) and the Responsible Party were required to find a facility qualified and willing to accept the Athos I for repair.
- Briefing Special Interest Groups such as the Mariners’ Advisory Committee, Delaware Bay and River Pilots’ Association, the Delaware Riverkeeper, the Delaware River Yachtsmen’s League, and local New Jersey Office of Emergency Management Groups – Preparations for briefings were similar to press releases and Community Outreach Programs. The Public Information Officer and the Liaison Officer prepared materials from subject matter experts and presented them to the Unified Command for approval.

The Unified Command held special Unified Command Meetings each day at 1200 hours to review proposed actions and updates from the morning.

The Tactics Meeting was scheduled for 1500 hours each day. The



Tactics Meeting

ICS 215

Deliverables:

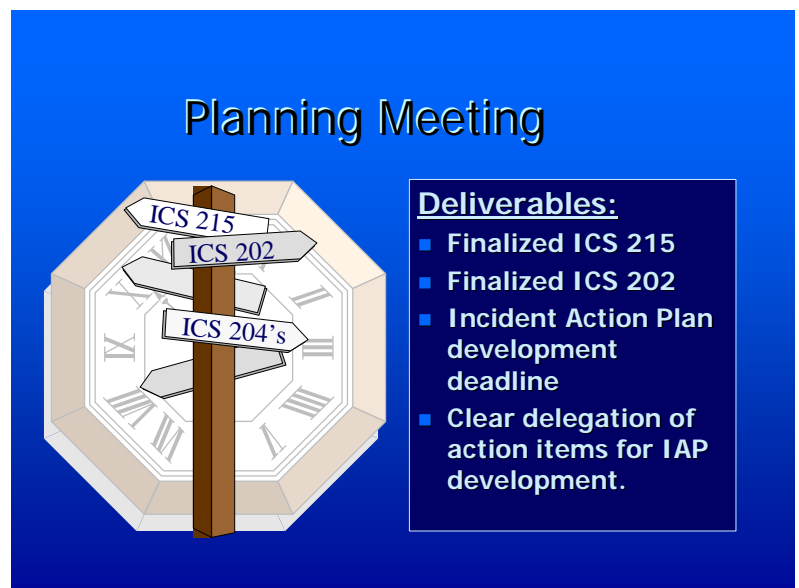
- Prepare draft operational planning worksheet (ICS 215)
- Draft primary and alternate tactics to meet response objectives
- Resource requirements to meet response objectives

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attendees required to in attendance were the Planning Section Chief, Operations Sections Chief, Logistics Chief, Situation Unit Leader, Resource Unit Leader and Environmental Unit Leader. On an as needed basis, certain Deputies would also attend the meeting. The meeting was facilitated by the Planning Section Chief and started with a situation update and review of current response objectives. The Operations Section Chief then discussed each proposed work assignment, the types of resources required and the supporting organization structure. The Resource Unit Leader, Operations Section Chief and Planning Section Chief populated the Assignment Worksheet, ICS form 215, with the specific resources required for each work assignment. For work assignments where the resources required were greater than the resources on hand, the Logistics Section Chief verified whether or not the resources could be acquired before the start of the next operational period. Early in the response, the operations organization frequently changed to support the response objectives. Each attendee was asked to confirm that all objectives established by the Unified Command were addressed. When the meeting concluded, attendees prepared for the Planning Meeting, which was scheduled for 1700 hrs.

Press conferences were typically scheduled just after or just before the Tactics Meeting. The Unified Command managed press conference participation to ensure a focused agenda was maintained.

The 1700 hours Planning Meeting participants included the Unified Command, Command Staff and General



Staff. The meeting was facilitated by the Planning Section Chief and started with a situation update, followed by a review of open action items and a detailed review of the proposed work assignments. The Operations Section Chief reviewed the Operations organization chart, each individual work assignment, including resources required and resources available. After the work assignment presentation, the Unified Command was asked for permission to prepare the Incident Action Plan. The Unified command would either grant approval to proceed or request specific modifications to the proposed plan. The Planning Section Chief adjourned the meeting and began preparing the Incident Action Plan for the next operational period based on the Unified Command's direction.

The Planning Section Chief presented the Incident Action Plan to the Unified Command in the IAP Approval Meeting, which was typically scheduled for 1800 to 1900 hours. The Unified Command reviewed the plan on a page-by-page basis and asked questions, which often were only answerable by bringing subject matter experts into the meeting. Upon approval, the original plan was given to the Documentation Unit and copies were made for response personnel.

The use of a Multiagency Coordination System was not used in the traditional sense during the response. The Unified Command instead elected to have representatives of the State Emergency Management Agencies sit with the Unified Command to coordinate local agency involvement.

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